

an illumination apparatus comprising a flexible liquid light guide coupled to the image acquisition system for highlighting the plurality of manipulated cells, wherein the flexible liquid light guide comprises a flexible hose-type sleeve wherein said sleeve is filled with a liquid and wherein said liquid light guide is capable of vibrationally isolating the illumination apparatus from the image acquisition system; and

a database system coupled to the image acquisition system, the database system being adapted to be populated with information of the image of the plurality of manipulated cells;

wherein the information comprises a plurality of descriptors, each of the descriptors comprising a plurality of features, each of the features corresponding to a cellular or subcellular component from the plurality of manipulated cells.

Please **add** the following claims:

F2 45. The system of claim 16, wherein the liquid is an aqueous solution containing chloride or phosphate.

Sub G1 46. The system of claim 16, wherein the liquid light guide further comprises a thin layer on the inside of the sleeve.

47. The system of claim 46, wherein said layer comprises tetrafluoroethylene and hexafluoropropylene.

48. The system of claim 46, wherein said layer comprises tetrafluoroethylene and perfluoromethyl vinyl ether.

49. The system of claim 46, wherein said layer comprises tetrafluoroethylene and perfluoropropyl vinyl ether.

50. The system of claim 16, wherein the liquid light guide has less than about 30% transmission loss.

51. The system of claim 16 wherein the image acquisition system comprises a magnification of at least 1X or greater to capture the image of the site.

52. The system of claim 16 further comprising a stage comprising a device for moving the cells.
53. The system of claim 16 further comprising a computing device connected between the database system and the image acquisition system.
54. The system of claim 16 wherein the database system is selected from an objected oriented database, a relational database and a mixed database.
55. The system of claim 16, further comprising a filter wheel having a plurality of filters, each filtering for a different color.
56. The system of claim 16, further comprising software that controls operation of the image acquisition system.
57. The system of claim 16, further comprising software for creating and sequentially naming files of the information.